Anybus® *Embedded solutions*

Connect your products to any industrial network and expand your market.

HMS Connecting Devices™

GLOBAL CONNECTIVITY:
A KEY TO SUCCESS IN TODAY'S INTERNATIONAL BUSINESS CLIMATE

Your challenges

In the world of industrial automation, there are many different networks available.

If you want to grow your business and reach new markets, you need to make your products compatible with the dominant networks in these markets.

But developing and maintaining network connectivity is both time-consuming and resource-demanding...

No network fits all

The choice of industrial network depends on several things. One deciding factor is geographical location as different PLC manufacturers have different home turfs.

Networks also vary according to the physical network requirements of different industries. Factory automation, building automation, the automotive industry, infrastructure and renewable energy are examples of different industry segments with different preferred networks.

On top of that you have the co-existence of fieldbus networks and the newer industrial Ethernet standards.

In short, there are a lot of networks on the market and no consolidation is in sight.

What customers say:

"Connectivity is not our core competence, we leave this to HMS"

As a manufacturer of industrial devices, your job is to build the best products possible — not to keep up with industrial networks.

Developing connectivity for one or more industrial networks in-house will require resources and time which could have been spent on your core business.

So how do you make your products compatible with all these different networks?

Anybus® Embedded

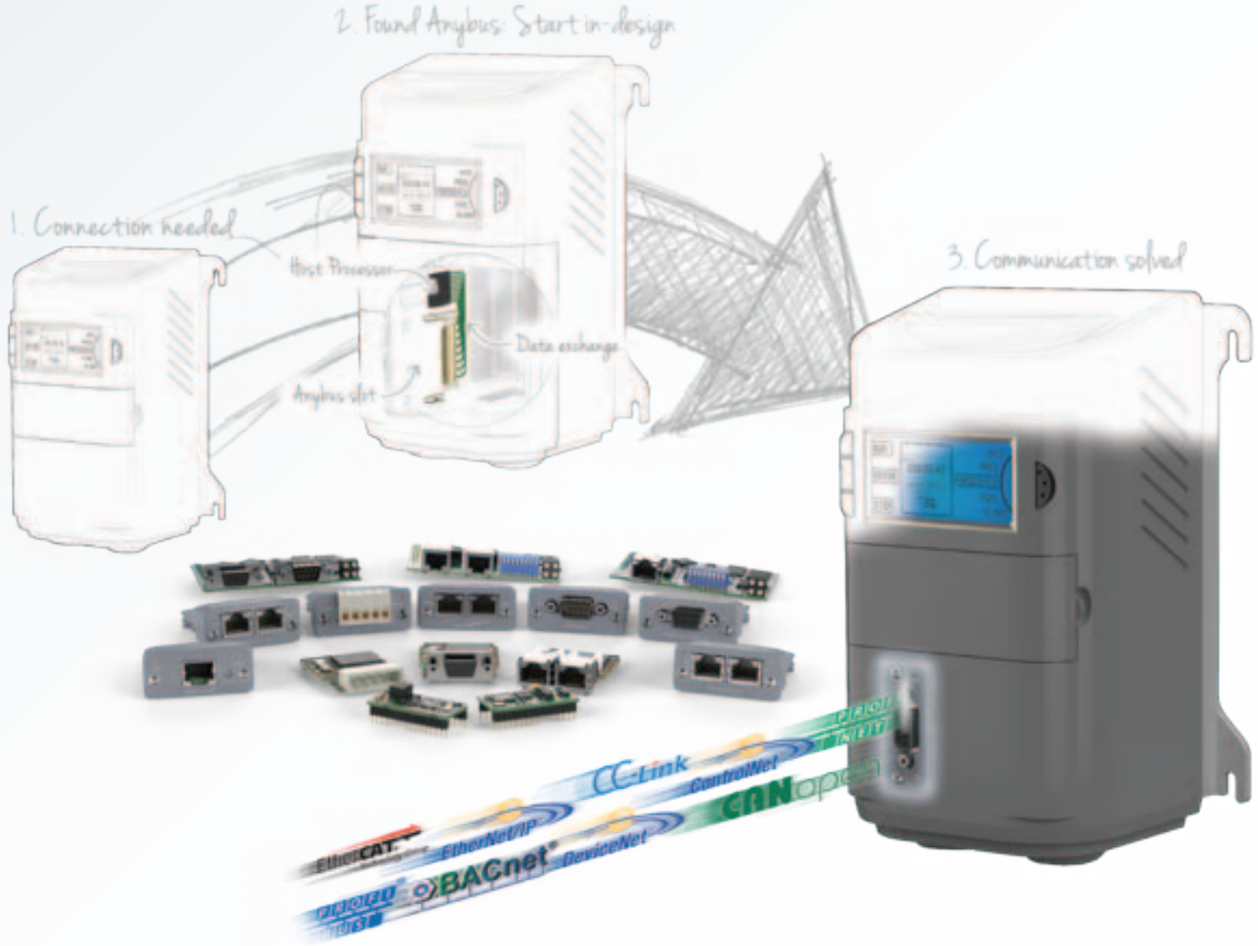
PLUG IN — GET CONNECTED!

Embed an Anybus module into your device and access any network

It doesn't matter if you manufacture robots, drives, weight scales, barcode scanners or any other industrial device.

Anybus modules will seamlessly integrate into your device and enable you to connect to over 20 different industrial networks.

You choose the solution that meets your demands regarding size, physical interfaces, performance, power consumption, interchangeability and so on.



You will get

- Global connectivity which will open up new markets for your product.
- A faster ROI and shorter time to market.
- A future-proof solution. Avoid worrying about new networks, network upgrades, maintenance costs and conformance issues.

Get connected to:

AS-Interface	CC-Link	DeviceNet	FL-net	Modbus-RTU	Profinet-IO
BACnet MSTP	CC-Link IE Field	EtherCAT	Interbus	Modbus-TCP	Profinet-IRT
BACnet/IP	CompoNet	EtherNet/IP	Lonworks	Powerlink	Profinet-IRT Fiber Optic
CANopen	ControlNet	FIPIO	Modbus Plus	Profibus	Sercos III

One development project gives you access to all networks

During the development project, you design the Anybus module into your product.

You implement the Anybus driver in your processor which enables your product to exchange data with the Anybus module. Your product can now participate on the chosen network.

Once you have implemented the Anybus module, your device has full network interchangeability. Simply plug in another Anybus module to offer your product to any market or business segment.

Anybus users estimate that they have saved up to 70 % of the development costs compared to in-house development.

Why Anybus?

"By choosing Anybus, you make sure that you have the latest industrial connectivity technology inside your product. Anybus embedded solutions are built on HMS's own network processor providing flexibility, optimal functionality and low power consumption.

Since Anybus incorporates expertise gathered from thousands of device implementations, plus original technology from the network founders, you can rest assured that you get a fast and easy design project, and that there is proven technology inside your product."

Leif Malmberg, Product Line Manager, Embedded Solutions, HMS

Anybus® CompactCom™

THE EASIEST WAY TO GET CONNECTIVITY TO ANY NETWORK

Cutting edge technology that plugs into your product

Anybus CompactCom is a range of plug-in communication modules designed for integration into industrial automation devices. CompactCom stands for modularity and interchangeability. This means that once you have implemented the Anybus CompactCom concept, you can just plug in any CompactCom module to get access to the required networks.

The modules come in two standard versions, one with housing and one without housing. The robust plastic housing completely covers the electronics and allows for easy handling.

Typical applications

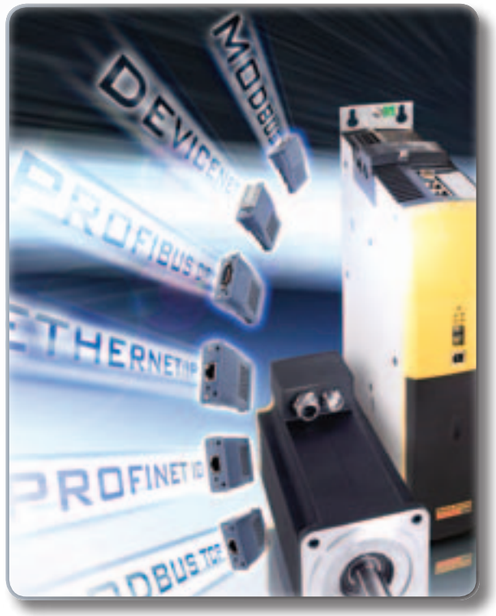
Anybus CompactCom has been designed to fit into many types of industrial automation devices. HMIs, robot controllers, drives, micro PLC's, valve terminals, instruments, weight scales, temperature controllers, barcode scanners, I/O blocks, welding controllers, and RFID applications are just some of the automation devices that are using Anybus CompactCom today.

Anybus CompactCom

User case: Drives

Baldor Motors & Drives UK Ltd has upgraded its range of smart drives with Anybus. This range is now able to communicate with any PLC, it is much more open to communication standards and its communication interfaces are consistent throughout the entire range.

"Anybus's strong point is that it provides a unified interface. The consistency of their range of product is unique. Thus, our engineering costs are reduced. We have the same kind of product for all different fieldbuses," says David Greensmith, Product manager, Baldor Motors & Drives UK Ltd.



User case: Control valves

VAT Vakuumventile AG in Switzerland had to find a solution to implement CC-Link on their control valves and studied the different offers on the market: "We chose HMS because of the amount of supported fieldbuses, the ability to provide a CC-Link module as a standard product and finally the size of the company which offers us guarantees," explains Thomas Grebenz at VAT.

"It also is very easy to add new fieldbus compatibility to our control valves. With the Anybus CompactCom, we get access to other networks too, which means our pressure controllers have worldwide communication connectivity capabilities."

Why Anybus CompactCom?

"Quick implementation for many networks, small size and competitive pricing make Anybus CompactCom the obvious first choice for network connectivity.

Anybus CompactCom meets the requirements of the demanding Japanese market which requires a high level of functionality and quality.

CompactCom's unique generic interface knits together I/O, parameters, and diagnostics functionality.

This creates total transparency when it comes to the data exchange between the network and the device.

Use this module if you want to leverage on the latest technology advancements."

Katsuyoshi Mineji
Manager, HMS Japan

Anybus® - IC

IDEAL IF YOU HAVE LIMITED SPACE OR WANT TO DESIGN THE PHYSICAL CONNECTOR INTERFACES YOURSELF

When size matters

Anybus-ICs are small connectivity modules with a size of only 9 cm². This connectivity solution is designed for integration into small-sized devices with limited space for the communication interface. The flexible Anybus-IC can be used with various network connectors such as M12 or screw terminals which makes it an ideal solution for devices that are used in harsh industrial environments.

The Anybus concept with HMS's own network processor enables Anybus-IC to contain all the digital and analog components needed to communicate with the chosen network. This also gives Anybus-IC a very low power consumption and wide temperature range.

The Modbus-based application interface is easy to use and ensures a simple and fast development project. As an alternative, the Anybus-IC can be used in stand-alone mode without the need for a host microprocessor.

Typical applications

Less demanding applications where size is important or where there is a need for special network connectors such as M12.

Anybus IC

User case: Traffic automation

Time to market is very important for Scandisign AS in Norway. So when the need for a sign with Profibus communication came up, Scandisign had to find a solution quickly. The final products were to be used in "Festnings-tunnelen," an underground tunnel in central Oslo.

Scandisign initiated a cooperation with HMS's distributor AD Elektronikk. As they had used the Anybus-IC technology in previous projects they could quickly develop and design a solution including a regulator, a switch and a microcontroller.

More than 500 circuit boards with Anybus-IC are used in the tunnel today.

Two for one

A few months later Scandisign AS had a new requirement from their customer: They now needed connectivity over Modbus TCP instead of Profibus. Scandisign could now fully appreciate the flexibility of the Anybus solution. Within a few weeks they were up and running with the new connectivity.

"Projects would be lost if it wasn't for the Anybus technology" says Håkon Sahlsten, Managing Director at Scandisign AS.

Why Anybus-IC?

"This is your choice if you have limited space, require a very simple integration or need to use special network connectors — for example M12 connectors to achieve IP65 rating."

Joakim Wiberg
Development Team Manager, HMS

Anybus® - S

TRUSTED BY THOUSANDS OF DEVICE MANUFACTURERS ALL OVER THE WORLD

Millions of devices can't be wrong!

Anybus-S (Slave) is a range of proven communication modules with millions of installations worldwide.

All Anybus-S modules are credit card-sized daughter boards that are integrated into the host automation device. They offer a complete network interface that is very easy to design into a product.

Anybus Slave

Typical applications

HMIs, robot controllers, drives, micro PLCs, valve terminals, instruments, weigh scales, temperature controllers, barcode scanners, I/O blocks, welding controllers, RFID applications, and more.

Why Anybus-S?

Originally introduced in 1998, the Anybus-S family is still going strong and HMS is still developing and incorporating the latest technology standards into the Anybus-S platform.

For example, the Anybus-S Profinet IRT fiber optic module helps device manufacturers within the automotive industry to meet the requirements of the AIDA organization (Automation Initiative of German Automobile Manufacturers).

Gigabit Industrial Ethernet capability for CC-Link IE Field is another example of the ongoing development of Anybus-S.

User case: Welding machines

ARO Welding Technologies Group is a world leader in welding equipment and systems to the automotive and other industries. ARO wanted to integrate industrial Ethernet technology, firstly, with Profinet-IO Fiber Optics to meet the AIDA (German Automotive Manufacturers) requirements, and secondly with EtherNet/IP.

"Not only were we able to meet market demands with industrial Ethernet technology, but we also benefit from the continuous improvements of these standards such as dual 2-port RJ45 with integrated switch technology for EtherNet/IP and RJ45 fiber optic connectors for Profinet," says Jérôme Journot, Operation Marketing Manager, ARO Welding, France.

Anybus Master

HMS also offers interchangeable Master interfaces with the same physical footprint as Anybus-S. These are used for integration into robot controllers, HMIs and more.

Anybus Master

HMS Connecting devices™

WORK WITH THE WORLD'S NUMBER ONE CHOICE FOR INDUSTRIAL COMMUNICATION

Facts about HMS

- Operations in 10 countries: Sweden, Germany, USA, Japan, Denmark, China, Italy, France, UK and India.
- Customers in more than 50 countries.
- Head office in Halmstad, Sweden.
- Founded in 1988.
- More than 200 employees.
- Listed on NASDAQ-OMX Nordic Exchange in Stockholm.

Always free support

No matter where you are, HMS offers free support and expertise regarding your Anybus module.

Network connectivity expertise at your service

With two million communication modules installed globally, HMS Industrial Networks is undisputedly the world's number one provider of industrial connectivity solutions.

Customers include most major industrial automation companies such as Siemens, Mitsubishi, Yaskawa, Rockwell Automation, Schneider Electric, Toshiba, Panasonic, ABB and Hitachi.

Focus on what you do best

By partnering with HMS, you get access to the knowledge of some of the world's leading experts on industrial connectivity — experts who are with you all the way from the design project and throughout the product lifecycle.

With HMS as your communication partner, you will not have to worry about network upgrades, new technologies or conformance testing. HMS handles all connectivity issues, so you can focus on your core business.

Partnership with HMS is for the long-term

We work closely with our customers to offer expertise and know-how. We help you broaden your market and stay up-to-date when it comes to network connectivity. Indeed, many of our customers regard HMS as their internal development department for industrial communication.

Get in touch with us, and we'll tell you more about how to get connected.

Staffan Dahlström
Chief Executive Officer, HMS

HMS Industrial Networks

Through Anybus® technology, HMS Industrial Networks provides reliable solutions to connect devices to any major industrial network. Anybus is a globally recognized brand, offering customers a competitive advantage in all types of applications. HMS' knowledgeable staff along with distributors and partners in over 50 countries worldwide, are there to help you and your business increase productivity and performance while lowering cost and time to market.

www.anybus.com

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